

WINDS.

The prevailing winds at the Signal Corps stations are shown by the arrows, flying with the wind, on chart No. II. The *maximum* velocities (in miles per hour) have been given in the description of the movements of areas of low pressure. On Mt. Washington the highest velocity, W. 114 miles, was recorded on the 14th; from seven observations taken daily the following results: calm at 2 observations, N. at 3, NW. at 123, W. at 33, SW. at 16, S. at 3, SE. at 20, E. at 4, and NE. at 13 observations.

Total Movements of the Air.—The following are the *largest* monthly movements recorded at the Signal Corps stations, viz.: Pike's Peak, 18,389 miles; Cape Lookout, 13,102; North Platte, 11,081; Ft. Dodge, 10,823; Cape May, 10,731; Sandy Hook, 10,652; Cape Henry, 10,518; Wood's Holl, 10,504; Cape Hatteras, 10,365; Breckenridge, 10,306; Sandusky, 10,194; Milwaukee, 9,960; Red Bluff, Cal., 9,791; Indianola, 9,683; Cheyenne, 9,121; Winnemucca, 9,096. The *smallest* are Florence, Ariz. Ty., 1,652 miles; La Messilla, N. Mex. 1,787; Nashville, 2,110; Visalia, Cal., 2,611; Los Angeles, Cal., 2,214; Deadwood, Dak., 3,284; Augusta, 3,296; Lynchburg, 3,294; Uvalde, Tex., 3,417; San Antonio, Tex., 3,441; Montgomery, 3,798; Ft. Davis, Tex., 3,761.

Local Storms.—Tornado in Macoupin Co., Ill., March 10th, in the afternoon, a black cloud having the appearance of a large spinning top was seen to move in southwesterly direction. It would rise and then touch the earth sweeping everything in its path; houses, barns, trees, &c., were totally destroyed. Near Prrietown, Madison Co., the storm found its first and as far as can be ascertained its only victims. A man working on his farm was raised in the air about 30 feet and carried a distance of five hundred yards, resulting in death; a child was blown out of its mothers arms and killed, the father of the child and five remaining children were very seriously injured; another man had his shoulders broken; several others were injured; "houses were scattered to the winds, and farm property generally destroyed by its fury." Many persons described the storm cloud as resembling a large balloon; track about a quarter of mile wide. Storms that uprooted trees, blew down fences, barns, &c., were experienced on the same day in the neighboring counties of Madison, Montgomery, Bond and Clinton. Its formation was due to two conditions: 1st, a narrow barometric trough reaching from storm-centre No. VII southward: 2nd, the rapid advance of a high pressure area from the westward, causing a sudden shift of the wind, from southerly to northerly.

Waterspouts.—Ship "India" was abandoned April 1st, 200 miles from the capes of the Delaware. She was caught between two waterspouts one of which passed forward, burst and fell on deck crushing it, and filled vessel with water.

VERIFICATIONS.

Indications.—The detailed comparison of the tri-daily weather indications, with the telegraphic reports for the succeeding twenty-four hours, shows the general percentage of omissions to be 1.2 per cent, and of verifications to be 89.7 per cent. The percentages for the four elements have been: Weather, 92.1; Wind direction, 90.0; Temperature, 90.3; Barometer, 86.3. The percentages of verifications by geographical districts have been: New England, 89.3; Middle States, 90.5; South Atlantic States, 91.6; East Gulf States, 90.7; West Gulf States, 87.8; Lower Lake region, 91.2; Upper Lake region, 89.6; Tennessee and the Ohio valley, 89.4; Upper Mississippi valley, 88.1; Lower Missouri valley, 89.1; Northern Pacific coast region, 91.1; Central Pacific coast region, 88.7; Southern Pacific coast region, 87.5. Of the 3,766 predictions that have been made, 91, or 2.4 per cent, are considered to have entirely failed; 86, or 2.3 per cent, were one-fourth verified; 346, or 9.2 per cent, were one-half verified; 228, or 6.0 per cent, were three-fourths verified; 3,015, or 80.1 per cent, were fully verified, so far as can be judged from the tri-daily weather maps.

Cautionary Signals.—199 Cautionary Signals were displayed during the month, of which 157, or 78.9 per cent, were justified. 81 Cautionary Off-shore Signals were displayed, and of these 69, or 85.2 per cent, were justified as to direction; 72, or 88.9 per cent, were justified as to velocity. Of the Cautionary Off-shore Signals 42 were changed from Cautionary. 280 signals of both kinds were displayed, of which 223, or 79.6 per cent, were fully justified. The above does not include signals ordered at 47 display stations, where the velocity is only estimated and not measured. 64 cases were reported of winds of 25 miles or over where signals were not ordered.

NAVIGATION.

Stage of Water in Rivers.—In the table, on the right-hand side of chart No. III, are given the highest and lowest readings of the Signal Corps river-gauges for the month, with the dates. The Red river steadily fell throughout the month at Shreveport. In the Savannah river at Augusta the changes were slight, except rises of about two feet on the 14th and 23rd. The Cumberland, at Nashville, fell from 18 ft. 4 in., 4th, to 6 ft. 1 in., 16th; rose to 22 ft. 6 in. by the 27th; then fell to 15 ft., 31st. Tennessee, at Chattanooga, fell from 11 ft., 1st, to 4 ft. 6 in. by 21st; rose to 6 ft. 11 in., 26th; fell to 5 ft. 10 in. by 31st. Ohio, at Pittsburgh, rose from 7 ft. 7 in., 3rd, to 19 ft. 11 in., 12th; fell to 7 ft. 8 in., 21st; rose to 10 ft. 7 in., 24th; fell to 8 ft. 11 in., 26th; rose to 14 ft. 10 in. by 31st. At Cincinnati, fell from 29 ft. 6 in., 3rd, to 27 ft., 6th; rose to 38 ft., 15th; fell to 28 ft., 21st; rose to 38 ft. 10 in. by 30th. At Louisville, it generally rose from 9 ft. 10 in., 1st, to 13 ft. 6 in., 14th and 17th; fell to 11 ft. 6 in., 21st; rose to 15 ft., 31st. Arkansas, at Little Rock, changes unimportant and river low. Missouri was low, and the changes slight, until towards the latter part of the month it began rising from Yankton to St. Louis. Mississippi, above Cairo the river was low, and the changes were slight. At Cairo, fell from 25 ft. 6 in., 1st, to 23 ft., 11th; rose to 33 ft., 27th; fell to 31 ft. 10 in., 31st. At Memphis, fell from 19 ft. 10 in., 1st, to 16 ft. 10 in., 14th; rose to 25 ft. 5 in. by 31st. At